



PATENT
ATTORNEY DOCKET NO.: 041465-5034-03

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:)	
)	Group Art Unit: Unassigned
Ryuichiro YOSHIMURA et al.)	
)	Examiner: Unassigned
Application No.: 10/606,831)	
)	
Filed: June 27, 2003)	
)	
For: INFORMATION RECORD MEDIUM)	
AND APPARATUS FOR RECORDING)	
THE SAME)	

Commissioner for Patents
U.S. Patent and Trademark Office
2011 South Clark Place
Customer Window
Crystal Plaza Two, Lobby, Room 1B03
Arlington, VA 22202

Sir:

SUBMISSION OF TRANSLATION

Applicants are submitting a partial translation of the JP 07-226059 document cited in the IDS dated June 27, 2003. Consideration of the enclosed translation, along with the previously cited documentation is respectfully requested.

EXCEPT for issue fees payable under 37 C.F.R. §1.18, the Commissioner is hereby authorized by this paper to charge any additional fees during the entire pendency of this application including fees due under 37 C.F.R. §§1.16 and 1.17 which may be required, including any required extension of time fees, or credit any overpayment to Deposit Account No.

50-0310. This paragraph is intended to be a **CONSTRUCTIVE PETITION FOR
EXTENSION OF TIME** in accordance with 37 C.F.R. §1.136(a)(3).

Respectfully submitted,

MORGAN, LEWIS & BOCKIUS LLP

Dated: October 8, 2003

By:

A handwritten signature in black ink, appearing to read "Paul A. Fournier", is written over a horizontal line.

Paul A. Fournier

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[0016]

[Means for solving the Problems]

In order to attain the above object, an optical disk editing and recording system of the present invention is provided which comprises: an optical disk reproducing part having a CD player control part and a CD key switch, the optical disk reproducing part reproducing and outputting information recorded on an optical disk; and a DCC part which has a DCC control part and records an inputted information signal on a DCC tape having two traveling directions, wherein the CD player control part of the optical disk reproducing part, when instructed by the CD key switch to perform additional recording, causes the DCC control part of the DCC part to detect a recording end signal recorded on a recorded DCC tape, A-TIME at that point, and a DCC tape length; a recordable time of a remaining amount of the DCC tape is calculated based on the detection data; and according to the calculation result a distributing operation is performed so that a reproduction signal of the optical disk is not interrupted in tracking on the A surface and B surface of the DCC tape.

[0020]

Regarding the optical disk editing and recording system configured thus, the operations of the system will be discussed in accordance with the flowcharts of Figures 2, 3, and 4.

[0021]

Figures 2 and 3 show the operations of the CD player part I. In step 1 of the drawings, the CD player control part 43 decides whether

the edit key 45b is pressed or not. When the edit key 45b is pressed, a shift is made to step 2. When the edit key 45b is not pressed, a shift is made to step 29 of Figure 3. Since steps 2 to 24 are the same as those of Figure 6 showing the operations of the conventional art, the explanation thereof is omitted. Steps 25 to 28 are not operations of a device but are typical operations performed by the user of the device. In step 25, editing and recording of the disk is temporarily completed and thus the disk is taken out, and in step 26, the power of the device is turned off. In step 27, the power of the device is turned on when editing and recording are requested again, and in step 28, a disk for editing and recording is inserted into the CD player part I.

[0022]

In step 29, it is decided whether or not the LINK key 45c is pressed to perform editing and recording on a subsequent part of the DCC tape recorded once. When the LINK key 45c is pressed, a shift is made to step 30. When the LINK key 45c is not pressed, the flow goes back to step 1 to decide whether or not editing and recording are specified from the beginning of the tape. In step 30, an additional edition mode on signal is set in the CD recording control signal arithmetic part 47 in order to notify the DCC part II of the start of additional editing and recording, and the signal is outputted from the CD recording control signal input/output part 48. In step 31, the input of tape recordable time data is received from the DCC recording control signal input part 68 of the DCC part II. In step 32, A-TIME data (hereinafter, referred to as END TIME), which is the recording elapsed time information of a recording end position recorded in the previous

editing and recording, is received from the A-TIME information reading part 74.

[0023]

Further, in step 33, the input of information (hereinafter, referred to as END direction) indicating whether the recording direction on the recording end position is A surface or B surface is received from the DCC recording control signal input/output part 68. In step 34, the CD player control part 43 decides whether or not all the pieces of additional recording information are received. When all the pieces of information are received, a shift is made to step 35. When all the pieces of information are not received, the flow goes back to step 31 to wait for the completion of detection of a recording end in the DCC part II. In step 35, in the case of additional recording on A surface, based on the tape recordable time inputted in step 31 and END TIME inputted in step 32, the tape remaining amount arithmetic part 51 subtracts END TIME from the recordable time of the tape and further subtracts a half of the recordable time of the tape from the obtained time, and the tape remaining amount arithmetic part 51 sets the result as an editing time of A surface. In the case of additional recording on B surface, the tape remaining amount arithmetic part 51 subtracts END TIME from the recordable time of the tape and sets the result as an editing time of B surface. Then, a shift is made to step 24, after an editing operation is performed in the A/B surface edition arithmetic part 46 to suit a surface undergoing additional recording, an edited tune is reproduced in the CD player part I in the same steps as those of typical editing and recording operations.

[0024]

Referring to Figure 4, the following will discuss the operations of the DCC part II. In step 41 of Figure 4, the DCC control part 65 decides whether or not the edition mode on signal is inputted in the DCC recording control signal arithmetic part 67 from the CD recording control signal input/output part 48 of the CD player part I. When the signal is inputted, a shift is made to step 42. When the signal is not inputted, a shift is made to step 59. Since the steps 42 to 56 are the same as those of the operations of Figure 7 showing the conventional art, the explanation thereof is omitted. In step 57, it is decided whether or not editing and recording should be stopped based on an operation input from the CD key switch 45. When editing and recording are not stopped, a shift is made to step 58. When editing and recording are stopped, a shift is made to step 65. In step 65, a recording end signal (ENDID) indicating a recording end point is generated by the recording end signal generating/detecting part 72, the signal is recorded on the DCC tape, and the operations are completed.

[0025]

In step 59, it is decided whether or not an additional edition mode on signal is inputted in the DCC recording control signal arithmetic part 67 from the CD recording control signal input/output part 48 of the CD player part I. When the signal is inputted, a shift is made to step 60. When the signal is not inputted, a shift is made to step 41. In step 60, the tape recordable time data detected by the tape length detecting part 71 is outputted to the CD player part I from the DCC recording control signal input/output part 68. In step 61, the tape is caused to run and the recording end signal recorded

during editing and recording is detected by the recording end signal generating/detecting part 72. In step 62, it is decided whether or not the detection of a recording end is completed. When the detection is completed, the running of the tape is stopped, the recording end signal recorded once is erased, and then, a shift is made to step 63. When input is not performed, the flow goes back to step 61 to continue detection. In step 63, A-TIME information on the recording end position is read by the A-TIME information reading part 74 and is outputted as ENDTIME from the DCC recording control signal input/output part 68. In step 64, information about END direction is outputted from the DCC recording control signal input/output part 68. Thereafter, recording is caused to pause in step 44 on the recording end position and waits for the input of a reproduction start signal from the CD player part I.

[0026]

As described above, according to the present example, even in the case where a tape remains after a disk is edited and recorded but a disk to be recorded on a remaining part is not available, additional recording can be readily performed as follows: when edited tunes are all recorded during editing and recording of a single disk, a reproduction end signal is outputted from the CD player part I, the DCC part II having received the signal records a recording end signal, which is generated by the recording end signal generating/detecting part 72, on the DCC tape, and when a disk to be recorded is available after the main power supply of the device is turned off, the power of the device is turned on and additional recording on the recorded tape is specified. Simply with these operations, a recording end is detected by the recording end signal

generating/detecting part 72, A-TIME information on the recording end position is read by the A-TIME information reading part 74, a remaining time of the tape is calculated by the tape remaining amount arithmetic part 51 based on the time of the information and a tape length of the DCC tape, the tape length being detected by the tape length detecting part 71, and editing is performed on the subsequent disk according to the time.

Figure 2

- Step 1 EDIT KEY ON?
- Step 2 OUTPUT EDITION MODE ON SIGNAL
- Step 3 INPUT TAPE RECORDABLE TIME
- Step 4 RECORDABLE TIME INPUTTED?
- Step 5 PERFORM EDITING OPERATION OF A SURFACE
- Step 6 PERFORM EDITING OPERATION OF B SURFACE
- Step 7 PLAY KEY ON?
- Step 8 OUTPUT REPRODUCTION START SIGNAL
- Step 9 EDITED TUNES OF A SURFACE PRESENT?
- Step 10 REPRODUCE EDITED TUNES OF A SURFACE
- Step 11 A SURFACE COMPLETED?
- Step 12 OUTPUT A SURFACE END SIGNAL
- Step 13 EDITED TUNES OF B SURFACE PRESENT?
- Step 14 PAUSE ON B SURFACE
- Step 15 DECK REVERSAL ON STANDBY?
- Step 16 OUTPUT REPRODUCTION START SIGNAL
- Step 17 REPRODUCE EDITED TUNES OF B SURFACE
- Step 18 B SURFACE COMPLETED?
- Step 19 OUTPUT REPRODUCTION END SIGNAL
- Step 20 CALCULATE REMAINING TIME OF B SURFACE
- Step 21 OUTPUT REPRODUCTION END SIGNAL
- Step 22 CALCULATE REMAINING TIME OF A SURFACE
- Step 23 CHANGE OR STOP DISK?
- Step 24 REMAINING TIME RECORD OF B SURFACE?

Figure 3

- Step 25 TAKE OUT DISK

Step 26 TURN OFF POWER
Step 27 TURN ON POWER
Step 28 INSERT DISK
Step 29 ADDITIONAL RECORD KEY ON?
Step 30 OUTPUT ADDITIONAL EDITION MODE ON SIGNAL
Step 31 INPUT TAPE RECORDABLE TIME
Step 32 INPUT END TIME
Step 33 INPUT END DIRECTION
Step 34 ADDITIONAL TIME INPUT?
Step 35 SET EDITING TIME

Figure 4

Step 41 EDITION MODE SIGNAL ON?
Step 42 DETECT TAPE RECORDABLE TIME
Step 43 OUTPUT TAPE RECORDABLE TIME DATA
Step 44 MAKE RECORDING PAUSE
Step 45 REPRODUCTION START SIGNAL ON?
Step 46 PERFORM RECORDING ON A SURFACE
Step 47 EDITED TUNES ON A SURFACE COMPLETED?
Step 48 REPRODUCTION COMPLETED?
Step 49 MUTE RECORDING
Step 50 TAPE END?
Step 51 REVERSE TAPE RUNNING
Step 52 OUTPUT TAPE RUNNING REVERSAL END SIGNAL
Step 53 MAKE RECORDING PAUSE
Step 54 REPRODUCTION START SIGNAL ON?
Step 55 PERFORM RECORDING ON B SURFACE
Step 56 REPRODUCTION COMPLETED?

Step 58 A SURFACE OR B SURFACE?
Step 59 ADDITIONAL EDITION MODE SIGNAL ON?
Step 60 OUTPUT TAPE RECORDING TIME DATA
Step 61 SEARCH END
Step 62 SEARCH COMPLETED?
Step 63 OUTPUT END TIME DATA
Step 64 OUTPUT END DIRECTION DATA
Step 65 RECORD END ID

Figure 6

Step 1 EDIT KEY ON?
Step 2 OUTPUT EDITION MODE ON SIGNAL
Step 3 INPUT TAPE RECORDABLE TIME
Step 4 RECORDABLE TIME INPUTTED?
Step 5 PERFORM EDITING OPERATION OF A SURFACE
Step 6 PERFORM EDITING OPERATION OF B SURFACE
Step 7 PLAY KEY ON?
Step 8 OUTPUT REPRODUCTION START SIGNAL
Step 9 EDITED TUNES OF A SURFACE PRESENT?
Step 10 REPRODUCE EDITED TUNES OF A SURFACE
Step 11 A SURFACE COMPLETED?
Step 12 OUTPUT A SURFACE END SIGNAL
Step 13 EDITED TUNES OF B SURFACE PRESENT?
Step 14 PAUSE ON B SURFACE
Step 15 DECK REVERSAL ON STANDBY?
Step 16 OUTPUT REPRODUCTION START SIGNAL
Step 17 REPRODUCE EDITED TUNES OF B SURFACE
Step 18 B SURFACE COMPLETED?

Step 19 OUTPUT REPRODUCTION END SIGNAL
Step 20 CALCULATE REMAINING TIME OF B SURFACE
Step 21 OUTPUT REPRODUCTION END SIGNAL
Step 22 CALCULATE REMAINING TIME OF A SURFACE
Step 23 CHANGE OR STOP DISK?
Step 24 REMAINING TIME RECORD OF B SURFACE?